Statement of Academic Honesty

The following form is standard procedure for an exam that may be offered multiple times. Read the material below, then complete the form and return it with your completed exam. Your exam will not be graded unless a completed copy of this form is on file.

Course: IEM 3503/3513 Summer 2017

Test: Weekly Test # 4

There are others who may be taking this exam or a similar exam at a later date. You are in no way to have any form of direct or indirect communications regarding this exam with anyone. If someone asks something as simple as "How was it?" your best response is "I cannot talk about the exam." Any violation of the letter or spirit of the above will be treated as an act of academic dishonesty.

By completing the information below, I acknowledge that I have read and understood the Statement of Academic Honesty above.

Name (signature) _____

Name (print): _____

Student ID: _____

Today's Date: _____

NAME:_____

DR. C. COLLINS

TEST #4 (ON-LINE SECTION ONLY)
TIME LIMIT: 75 MINUTES
TEST TIME WINDOW: THURSDAY, JULY 6, 2017 (8:00AM) TO MONDAY JULY 10, 2017 (5:00PM)

(OPEN BOOK, ONE PAGE OF NOTES – 8 ½ X 11)
Attach Notes Page to back of Test when submitted for grade
ABSOLUTELY NO CELL PHONES OR BACKPACKS IN TESTING AREA!!!

Multiple Choice Questions: For each Multiple Choice question below select the most nearest answer from choices A – D. Properly write your selected answer in the blank beside the corresponding question. Each M/C question is worth 10 points each.

Use the information below to answer the next five multiple choice questions (Questions 1 – 5). The Stillwater Milling Company is considering two new extruder machines for use in making high-end pet food. (HINT: Use LCM to compare extruders). You may assume identical replacement (same cost, performance, etc.) MARR = 12%. Below is information from two extruder manufacturers:

DATA	Wenger X-185	Clextral BC-72
First Cost	$3,280,000	$2,540,000
Annual Benefit	$670,000	$650,000
Annual M&O Costs	$78,000	$71,000
Salvage Value	$118,000	$97,000
Useful Life	15	10

(10) 1. What is the Present Worth for the Wenger X-185 model?
- **A. $477,500**
- **B. $694,800**
- **C. $825,300**
- **D. $914,900**

(10) 2. What is the Future Worth for the Wenger X-185 model?
- **A. $12,870,600**
- **B. $22,205,400**
- **C. $27,410,900**
- **D. $32,579,300**

(10) 3. What is the Annual Worth for the Wenger X-185 model?
A. $113,500
B. $120,800
C. $135,000
D. $152,300

(10) 4. What is the Present Worth for the Wenger BC-72 model?
A. $ 872,100
B. $1,087,500
C. $1,632,400
D. $2,411,700

(10) 5. What is the Future Worth for the Clextral BC-72 model?
A. $12,870,600
B. $22,205,000
C. $27,410,900
D. $32,579,400

(10) 6. What is the Annual Worth for the Clextral BC-72 model?
A. $113,500
B. $120,800
C. $135,000
D. $152,300

(10) 7. Based on the Future Worth calculations which Pet Food Extruder should the Stillwater Milling Company select from an economic feasibility standpoint?
A. Select Wenger Model X-185 Extruder
B. Select Clextral BC-72 Extruder
C. Both are equal, Indifferent
D. Don't Have Enough Information

(10) 8. **PRM Energy out of Hot Springs, Arkansas is considered a sophisticated syngas filtration system for their Biomass Gasification BG-48T unit. The filtration system has an initial cost of $2,500,000, has annual operating and maintenance costs of $800,000, and requires overhauls every 5 years at a cost of $1,250,000. Using a 5% per year interest rate, determine the CAPITALIZED COST for the proposed filtration system.**

A. $23,025,000
B. $22,500,000
C. $17,800,000
D. $ 4,550,000

(10) 9. **Flintco is bidding a job to replace existing lighting and HVAC systems for OSU. The initial cost is $1,500,000 with an annual savings of $475,000 per year due to more energy efficient lighting systems and a higher SEER on the HVAC systems. What is the SIMPLE PAYBACK PERIOD (PBP) for this equipment?**

A. 6.75 years
B. 5.40 years
C. 4.55 years
D. 3.15 years

(10) 10. **Consider the same cash flow from Problem #9 above. Using a MARR of 15%, what is the DISCOUNTED PAYBACK PERIOD (DPBP) for this equipment?**

A. 3.15 years
B. 4.55 years
C. 5.40 years
D. 6.75 years

SOCRE:_____